

AMENDMENTS TO THE CLAIMS:

The following listing of claims supersedes all prior versions and listings of claims in this application:

1. (Currently Amended) A communications network comprising:
a communications station;
electrical transmission lines connecting the communications station to user terminations;
data transmission means;
optical carriers connecting the data transmission means to at least one interface, located between the communications station and user terminations, for converting optical signals from an optical carrier into electrical signals for transmission over one at least of the electrical transmission lines;
wherein, in respect of at least downstream transport, and for each of a plurality of user terminations requiring data service:
 - (a) a dedicated one of said optical carriers is provided;
 - (b) the data transmission means comprises modulation means for converting input data signals into output signals suitable for transmission over the electrical transmission lines, followed by means for modulating the output signals onto an optical signal;

(c) the interface has optoelectrical conversion means arranged to recover said output signals and feed them to the electrical transmission line serving the relevant user termination; and

wherein, at least in respect of upstream transmission:

(d) the communication station has associated therewith a light source for generating a plurality of optical seed signals at different respective wavelengths; and

(e) there is provided, for each of the user terminations, a light generating device capable of predominantly generating light at a selected one of a plurality of predetermined wavelengths, the light generating devices each being arranged to receive a respective seed signal such that the wavelength of the light generated by a given light generating device is determined by the received seed signal.

2. (Original) A network according to claim 1 including data reception means, connected at the communications station to the electrical transmission lines for receiving data from the user terminations.

3. (Original) A network according to claim 1 including data reception means, connected to the optical carriers for receiving data from the user terminations, wherein the interface includes electrooptical conversion means arranged to receive signals from

the electrical transmission lines and feed them to the optical carrier serving the relevant user termination.

4. (Previously Presented) A network according to claim 1 in which the optoelectrical conversion means and the electrooptical conversion means are together provided by an electroabsorption modulator.

5. (Previously Presented) A network according to claim 1 in which the optoelectrical conversion means is a zero-bias photodiode.

6. (Previously Presented) A network according to claim 1 in which the optoelectrical conversion means is a semiconductor device, and including means to draw power from the electrical transmission lines for providing power to the semiconductor device.

7. (Original) A network according to claim 6 in which the optoelectrical conversion means is a photodiode, and the means to draw power from the electrical transmission lines are arranged to provide photodiode bias.

8. (Original) A network according to claim 7 in which at least one of the electrooptical and the optoelectrical conversion means is a semiconductor device.

9. (Currently Amended) A network according to claim 7 in which the electrooptical conversion means is a Fabry Perot laser diode, and wherein the output wavelength of [[at]] the electrooptical conversion means is determined by a seed wavelength fed from the communications station.

10. (Previously Presented) A network as claimed in claim 8, wherein means are provided to draw power from the electrical transmission lines so as to provide a bias to the or each semiconductor device.

11. (Previously Presented) A network as claimed in claim 1, wherein the optical carriers are each formed by a respective wavelength channel.

12. (Original) A network as claimed in claim 11, wherein at least some of the wavelength channels are carried over a common optical medium, preferably over a common optical fibre.

13. (Previously Presented) A network as claimed in claim 1, wherein the optical carriers are each formed by a respective optical transmission line.

14. (Previously Presented) A network as claimed in claim 1, wherein the communications station is a telephone exchange.

15. (Cancelled)

16. (New) A network as claimed in claim 1, wherein:

the light generating devices are each connected to a respective electrical transmission line serving the relevant user terminal such that data from a given user terminal can be transmitted upstream by the light emitting device connected to that user terminal, and

the light generating devices are fed with DC power over the electrical transmission lines.